

## Tobacco (Electronic cigarette): An evil in many faces

Oral cancer is a major public health problem in the Indian subcontinent where it ranks among the top three types of cancer in the country. Age-adjusted rates of oral cancer in India is high, that is, 20/100,000 population and accounts for over 30% of all cancers in the country.

Public health officials, private hospitals, and academic medical centers within India have recognized oral cancer as a grave problem. Efforts to increase the body of literature on the knowledge of the disease etiology and regional distribution of risk factors have begun gaining momentum. Oral cancer will remain a major health problem and efforts toward early detection and prevention will reduce this burden. Now the younger Indians are getting lured for new gadget that is, E-cigarettes.

E-cigarettes have arrived in the life of the teenager. Use of the devices among middle and high school students tripled from 2013 to 2014, according to data available, bringing the share of high school students who use them is 13% more than traditional cigarettes. With little regulation, some of the cities in USA has become an E-cigarette boom towns where “vapers” flock to vapor shops to buy the smoking alternative products, which include nicotine liquids. About a quarter of all high school students and 8% of middle school students – 4.6 million young people altogether – used tobacco in some form. The sharp rise of E-cigarettes, together with a substantial increase in the use of hookah pipes, led to 400,000 additional young people using a tobacco product in 2014, the first increase in years, though researchers pointed out the percentage of the rise fell within the report’s margin of error. However, the report also revealed another story. From 2011–2014, the share of high school students who smoked traditional cigarettes declined substantially from 9% to 16%, and use of cigars and pipes subsided too. The shift suggested that some teenage smokers may be using E-cigarettes to quit, the smoking habit!

Smoking is still the single biggest cause of preventable death in the World, killing >480,000 Americans a year, and in India the situation is worst. Most scientists agree that E-cigarettes,



which deliver the nicotine but not the dangerous tar and other chemicals, are likely to be less harmful than traditional cigarettes. The numbers came as a surprise and seemed to put policymakers into uncharted territory. The Food and Drug Administration (FDA) of USA took its first tentative step toward regulating E-cigarettes in 2014, but the process is slow, and many experts worry that habits are forming far faster than rules are being written. Because E-cigarettes are so new, scientists are still gathering evidence on their long-term health effects, leaving regulators scrambling to gather data. In personal interviews, teenagers quoted that E-cigarettes had become almost as common at school as laptops, a change from several years ago when few had seen them.

However, opinions were mixed on why the devices had caught on. A significant share said they were using the devices to quit smoking cigarettes or marijuana, while others said they had never smoked, but liked being part of the trend and enjoyed the taste. Two favorite flavors of teenagers interviewed were Sweet Tart and Unicorn Puke, which one student described as “every flavor Skittle compressed into one.” An electronic cigarette (E-cig or E-cigarette), personal vaporizer (PV) or electronic nicotine delivery system (ENDS) is a battery-powered vaporizer which produces a similar feel to tobacco smoking. Electronic cigarettes produce an aerosol, commonly called vapor, rather than cigarette smoke, which the user inhales. In general, E-cigarettes have a heating element that atomizes a liquid solution known as E-liquid. E-liquids usually contain a mixture of propylene glycol, glycerin, nicotine, and flavorings. Some E-liquids are available without the nicotine. E-liquid that does not contain propylene glycol is also available.

The benefits and risks of electronic cigarette use are uncertain. One review found limited evidence of a benefit as a smoking cessation aid. Another found no evidence that they are superior to regulated medications for smoking cessation. The role of electronic cigarettes in tobacco harm

Access this article online	
Quick Response Code:	Website: <a href="http://www.contempclindent.org">www.contempclindent.org</a>
	DOI: 10.4103/0976-237X.156032

reduction as a substitute for tobacco products is unclear. One review stated they may be similar in safety to other nicotine replacement products. Another found that products approved by the United States Food and Drug Administration, such as nicotine inhalers, are probably a safer means to supply nicotine than E-cigarettes.

There is very scarce evidence which suggests E-cigarettes are safer than traditional cigarettes. Electronic cigarettes may carry a risk of addiction for those who do not smoke. There is no evidence they are regularly used by those who have never smoked. They may encourage users to delay quitting smoking, or act as a deterrent to quitting. Emissions from E-cigarettes may contain ultrafine particles, aroma transporters, glycerol, propylene glycol, nicotine, tiny amounts of carcinogens and heavy metals, and other chemicals. E-cigarette vapor contains fewer toxic substances than cigarette smoke and is likely to be less harmful than traditional cigarettes to users and bystanders. No serious adverse effects from E-cigarettes have been reported in trials. Less serious adverse effects from E-cigarette use can occur however, including throat and mouth inflammation, vomiting, nausea, and cough.

The frequency of use has increased with up to 10% of American high school students reported having ever used them at least once as of 2012, and around 3.4% of American adults as of 2011. In the United Kingdom, the number of E-cigarette users has increased from 700,000 in 2012–2.1 million in 2013. About 60% of users in the United Kingdom are smokers and most of the rest are ex-smokers. Most E-cigarette users continue to smoke traditional cigarettes. Most peoples' reason for using E-cigarettes is related to quitting, with a considerable proportion using them recreationally. The modern E-cigarette arose from a 2003 invention by Hon Lik in China and as of 2014 most devices are manufactured in China. E-cigarette brands have increased their advertising efforts, using marketing strategies similar to those used to sell cigarettes in the 1950s and 1960s. Because of the possible relationship to tobacco laws and medical drug policies, electronic cigarette legislation is being debated in many countries. The European Parliament passed regulations in February 2014 requiring standardization of liquids and PVs, listing ingredients and child-proofing liquid containers. In India, the number of children and adults switching to E-cigarette or started newly is not known exactly. However, it is a well-known fact that the number of individuals started this habit is alarming.

Electronic cigarette sales increased from 50,000 in 2008–3.5 million in 2012. Electronic cigarette sales worldwide for 2014 were estimated at \$7 billion. As of 2014, awareness and E-cigarette use has greatly increased over the last few years, most notably among young individuals and women in some countries. Trying E-cigarettes was common with less educated people. Most users have a history of smoking normal cigarettes. Some young people who have

never smoked normal cigarettes have tried electronic cigarettes at least once. Most studies found everyday use among E-cigarette users was common. The extent to which a dual use, using both E-cigarettes and traditional cigarettes, exists is unclear. E-cigarette users most commonly continue to smoke traditional cigarettes. Many users report that electronic cigarettes help them either quit smoking or reduce the number of cigarettes smoked. Adults most frequently use electronic cigarettes as a replacement for tobacco, but not always to quit. The majority of E-cigarette users are typically middle-aged males presently using traditional cigarettes to assist them to quit or for recreational use. The percentage of the use of E-cigarettes during pregnancy is unknown, but if companies persuade women that these devices present a minor risk to females of reproductive age not smoking might start using E-cigarettes and pregnant women currently smoking might shift to E-cigarettes or use these devices to reduce smoking, instead of quitting tobacco altogether. Among females, E-cigarette use is rising sharply, and E-cigarette use is rising among females of childbearing age. Although some people express a desire to quit smoking by using E-cigarettes, other common explanations for using these products are a way to circumvent smoke-free laws and policies, and to cut back on the number of traditional cigarettes smoked. Some people used E-cigarettes to avoid smoking bans, but the extent to which traditional cigarette users use E-cigarettes to avoid smoking bans is unclear. Dual use of E-cigarettes and traditional tobacco is still a definite concern. Many worry that E-cigarettes may function as a “gateway” to using traditional cigarettes. Ethical concerns exist about E-cigarettes use among minors and their potential to weaken efforts to reduce the use of traditional cigarettes.

A February 2014 survey in France estimated that between 7.7 and 9.2 million individuals have experimented with electronic cigarettes, with between 1.1 and 1.9 million using them on a daily basis. 67% of tobacco smokers in the survey used electronic cigarettes to reduce or quit tobacco smoking. 9% of those who experimented with electronic cigarettes had never smoked tobacco. Of the 1.2% that had recently stopped tobacco smoking at the time of the survey, 84% (or 1% of the population surveyed) credited electronic cigarettes for stopping tobacco use.

As the electronic cigarette industry grows, a subculture has emerged which calls itself “the vaping community”. Online forums like E-CIG-Reviews.com was one of the first major communities. Another online forum UKVaper.org that focuses on E-cigarettes started the hobby of modding. There are also groups on Facebook and Reddit. Members of this emerging subculture often view electronic cigarettes as a safer alternative to smoking and some even view it as a hobby. They tend to use highly customized devices that do not resemble what are known, by some, as “cig-a-likes”, or electronic cigarettes that resemble real cigarettes online

forums on modding have grown in the vaping community. A 2014 Postgraduate Medical Journal editorial stated that E-cigarette companies have a substantial online existence, many seemingly from individual vapers who spend time blogging and tweeting about the E-cigarette products. The editorial stated that a few vapers “engage in grossly offensive online attacks on anyone who has the temerity to suggest that ENDS are anything other than an innovation that can save thousands of lives with no risks”. A 2014 review stated that tobacco and E-cigarette companies interact with consumers for their policy agenda. The companies use websites, social media, and marketing to get consumers involved in opposing bills that include E-cigarettes in smoke-free laws. This is similar to tobacco industry activity going back to the 1980s, showing coordinated “vapers” like coordinated smokers. It was concluded that the companies used these approaches to minimize the tobacco product directives.

E-cigarettes deliver an addictive substance, nicotine. It’s difficult for the young to imagine how hard the nicotine habit is to quit and later in life they may deeply regret their addiction. Furthermore, there is still the matter of public health.

Countless number of studies of Indians, on the use of smoking and other tobacco use confirms the association of tobacco and oral cancer. It is beyond doubt that tobacco contains over 60 known carcinogens and its combustion of it, and by-products from this process is the primary mode of involvement and resulting oral cancer. The tobacco industry is criminal. It should be outlawed and all the profits accumulated should be confiscated to pay for healthcare since it has caused so much illness. There are no good uses

for tobacco. It has no redeeming qualities. It is harmful in all forms. In our country, our mission should be to propagate no tobacco in any form. Even E-cigarette is an evil in many faces.



S. G. DAMLE  
Editor-In-Chief,  
*Contemporary Clinical Dentistry*  
E-mail: [journalccd@gmail.com](mailto:journalccd@gmail.com)

## Bibliography

1. Schripp T, Markewitz D, Uhde E, Salthammer T. Does e-cigarette consumption cause passive vaping? *Indoor Air* 2013;23:25-31.
2. Pearson JL, Richardson A, Niaura RS, Vallone DM, Abrams DB. E-cigarette awareness, use, and harm perceptions in US adults. *Am J Public Health* 2012;102:1758-66.
3. Bullen C, McRobbie H, Thornley S, Glover M, Lin R, Laugesen M. Effect of an electronic nicotine delivery device (e cigarette) on desire to smoke and withdrawal, user preferences and nicotine delivery: Randomised cross-over trial. *Tob Control* 2010;19:98-103.
4. Cameron JM, Howell DN, White JR, Andrenyak DM, Layton ME, Roll JM. Variable and potentially fatal amounts of nicotine in e-cigarette nicotine solutions. *Tob Control* 2014;23:77-8.
5. Cobb NK, Abrams DB. E-cigarette or drug-delivery device? Regulating novel nicotine products. *N Engl J Med* 2011;365:193-5.
6. Sutfin EL, McCoy TP, Morrell HE, Hoepfner BB, Wolfson M. Electronic cigarette use by college students. *Drug Alcohol Depend* 2013;131:214-21.

**How to cite this article:** Damle SG. Tobacco (Electronic cigarette): An evil in many faces. *Contemp Clin Dent* 2015;6:145-7.

**Source of Support:** Nil. **Conflict of Interest:** None declared.